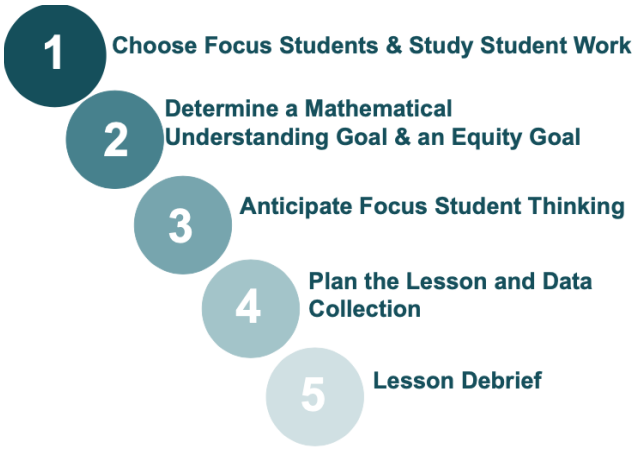
Coaching Cycles to Build Capacity for Lesson Study Cycles

We've learned that lesson study is a powerful tool to improve practice, however not everyone has the time to invest in a full research lesson study cycle. We have found that there are four core practices that can be embedded into daily/weekly routines to build capacity for lesson study. The structures/protocols that follow can be used as a coaching tool or a structure within a professional learning community to facilitate learning about student thinking.



Additional info on the core practices:
**great for coaches or facilitators*

1) Choose Focus Students & Study student work
    a) Blog post about this practice

2) Determining a Mathematical Understanding Goal & Equity Goal
    a) Blog posts about these practices (MUG & Equity Goal)
    b) What it looks in practice video (Via Distance Learning)

3) Anticipating Student Thinking
    a) Blog post about this practice
    b) What it looks in practice video (Via Distance Learning)

4) Plan the Lesson & Data Collection
    a) Blog post about this practice
    b) What it looks in practice video (Via Distance Learning)

5) Lesson Debrief
    a) Blog post about this practice
    b) What it looks in practice video (Via Distance Learning)

1 Choose Focus Students & Study Student Work

Prior to this meeting: Teacher selects work samples from 1-3 students whose *thinking you would like to understand better*. It is important that the work samples include evidence of student thinking. It is difficult to understand how a student *made sense of the mathematics* from a circled answer to a multiple choice question or a lone answer with no supporting work, so a good choice is to bring tasks that invite students to *"show all your thinking..."* or asks them to *"write down everything you know about..."* These prompts provide richer student thinking data to explore. *Challenge Option: Bring students in for a mathematical interview

***Equity Note**: It is critical at this stage to avoid deficit thinking. The purpose of this step is to highlight where students are in their mathematical thinking and understanding. What funds of knowledge do they bring to the class?*

Time: 30 Minutes

Student	What we're noticing about their mathematical thinking? *What mathematical strengths do we see evidence for?* *What mathematical ideas do they understand?* *What mathematical skills do they have?*	What would the next step to deepen their mathematical understanding be?	Understanding of Student Context *What information is known about this student's context? (School, home, friends, etc...)*
Focus Student 1			
Focus Student 2			
Focus Student 3			

2 Determine a Mathematical Understanding Goal & an Equity Goal

Do the Math & Determining a Mathematical Understanding and an Equity Goal
Do the math! The coach and teacher do the math task that the teacher is planning to use during the coaching cycle.

Time: 30-45 min

What mathematical understandings might students learn from engaging in this task?

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Which of these possible mathematical understandings should be emphasized during the discussion to advance the current mathematical understanding of your focus students?

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Determine a mathematical understanding goal and an equity goal for your upcoming lesson
What is a mathematical understanding goal? *What is an equity goal?*

Our mathematical understanding goal	Our equity goal
Example: Students understand that fractions can be represented as less than one whole and greater than one whole and can use this as a source of comparison.	Example: Students will participate in turn and talks and whole-class discourse to share mathematical thinking without fear of being incorrect or being judged by peers.

Anticipate Focus Student Thinking

Anticipate Focus Student Thinking
How might the focus students approach the task? What might they say and do? What questions might we ask them to push them to the next level in their mathematical understanding?

Time: 30-45 min

Student	How might the focus student (s) approach the task?
Focus Student 1	
Focus Student 2	
Focus Student 3	

Prepare Key Questions and Prompts To Push Student Thinking
Looking at the strategies/thinking discussed in the prior step, what it might sound like if students were justifying or generalizing about the mathematical understanding goal?

It might sound like....

Brainstorm prompts/questions the teacher could use to encourage students to explore the underlying mathematical concepts.

Possible questions/prompts to ask during the lesson...

Plan the Lesson & Data Collection

Script the Lesson (35 min)

Brainstorm around the Launch, Explore, Discuss framework. *Note: A single lesson may include multiple loops of the launch, explore, discuss lesson structure!*

1. ***Launch*** *(10 min)*
    a. How could the teacher introduce the task in a way that provokes student curiosity, ensures access, and **maintains cognitive demand?**

The launch plan is...

2. ***Explore*** *(10 min)*
    a. What could the teacher do to promote equitable student-student interaction?
        i. *Participation quiz*
        ii. *Accountability checkpoints*
        iii. *Group roles*
        iv. *Assigning competence*

    b. Which of the key questions or prompts could be used during this phase to support student thinking?

During the explore/grapple phase students will... *Questions I might ask are...*

3. **Discuss** *(10 min)*
    a. Looking at the anticipated student thinking, how could student ideas be shared/sequenced so the class engages on a journey to make sense of ***the mathematical understanding goal?***

Sequence of presentations....

    b. **Determine Data Collection Plan**
        i. **How will you collect evidence of your focus students' thinking about your Mathematical Understanding Goal?**

        ii. **How will you collect evidence to determine your progress towards your Equity Goal?**

Additional Lesson Orchestrating Tools

- Anticipatory Planning Guides
- Inside/Outside AP Guide
- Culturally Relevant Cognitive Demanding_Rubric

Lesson Debrief

35-40 min
Team discussion of the following prompts.

What did the team learn about:
**Keep in mind the data you've collected as source of discussion for these prompts*

- *Our Focus Students*
  - *In terms of our Equity Goal…*
  - *In terms of our Mathematical Goal...*

- *The mathematical concept?*

- *Teaching & pedagogy?*

- *Next Steps*